JOINT MESSAGEFORM [redacted]

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Lmsc B030478
Cy 2 of 5

PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	BOOK	MULTI	SINGLE			
INFO						

FROM:
6595TH AEROSPACE TEST WING, VANDENBERG AFB, CALIF. VWZD

SPECIAL INSTRUCTIONS

TO:
SPACE SYSTEMS DIV, LOSA, CALIF.

SUBJECT: EIGHT-HOUR FLASH REPORT

I. SUMMARY 2C-4-191

A VEHICLE CONSISTING OF SLV-2 BOOSTER NO. 372 AND S-01A ORBITAL STAGE NO. 1411 WAS LAUNCHED ON THE SECOND ATTEMPT FROM VAFB COMPLEX 75-1, PAD 1, AT 1212:57.07 PST, ON 26 APRIL 1963. THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE S-01A SATELLITE WITH PAYLOAD IN A NEAR POLAR ORBIT, WAS NOT ACCOMPLISHED. THE VTS RADAR PLOT BOARD INDICATED THE FOLLOWING APPROXIMATE CONDITIONS AT S-01A ENGINE SHUTDOWN: ALTITUDE 213 STATUTE MILES, PAD REFERENCED VELOCITY, 25,200 FPS; ELEVATION FLIGHT PATH ANGLE, APRROXIMATELY PLUS 2.5 DEG; AZIMUTH FLIGHT PATH ANGLE, APPROXIMATELY 174 DEG.

DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS
DOD DIRECTIVE 5200.10

DATE 26 | TIME
MONTH Apr | YEAR 1963

WRITER
SYMBOL
TYPED NAME AND TITLE (Signature, if required)
C. S. WALLER, LT. COL, USAF
PHONE 866-3771 | PAGE NR. 1 | NR. OF PAGES
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TYPED NAME AND TITLE [redacted]

DD FORM 1 MAY 55 173 REPLACES DD FORM 173, 1 OCT 49, WHICH MAY BE USED UNTIL EXHAUSTED

JOINT MESSAGEFORM - CONTINUATION SHEET

[redacted]

FROM:
6595TH AEROSPACE TEST WG, VANDENBERG AFB, CALIF.

COMPUTATIONS BASED ON THESE NUMBERS INDICATE THAT THE PROBABILITY OF ATTAINING ORBIT WAS MARGINAL. NEGATIVE ACQUISITION ON THE SCHEDULED FIRST AND SECOND PASSES INDICATE THAT ORBIT WAS NOT ATTAINED. THE DEVIATION FROM NOMINAL IN TRAJECTORY CONDITIONS AT S-01A ENGINE SHUTDOWN APPEARS TO BE ASSOCIATED WITH S-01A GUIDANCE ERRORS WHICH ARE ATTRIBUTED TO AN IMPROPER HORIZON SENSOR BIAS ANGLE DURING THE ASCENT.

II. SIGNIFICANT EVENTS:

PRELIMINARY VALUES OF SIGNIFICANT LAUNCH EVENTS ARE:

LIFTOFF (1213:57..07 PST)	ZERO
STEERING INITIATED	91.93 SEC
MECO (S1)	145.14 SEC
VECO	153.26 SEC
ENABLE D1 AND D2 (S2)	150.13 SEC
D1 ON	152.85 SEC
D1 OFF	154.27 SEC
D2 ON	154.42 SEC
D2 OFF	159.69 SEC
SEPARATION COMMAND (S3)	160.28 SEC
SEPARATION COMPLETE	162. 5 SEC

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FROM:

6595TH AEROSPACE TEST WG, VANDENGERG AFB, CALIF[redacted]

ULLAGE ROCKET IGNITION	186.83	SEC
S-01A ENGINE IGNITION	196.81	SEC
S-01A THRUST ATTAINMENT (90 PER CENT PC)	197.96	SEC
S-01A BURNOUT (70 PER CENT PC)	434.27	SEC
VTS VERLORT RADAR FADE	531	SEC
VTS ACQUISITION BEACON FADE	565	SEC
VTS TELEMETRY DATA FADE (LINK 1)	580	SEC
VTS TELEMETRY SIGNAL FADE (LINK 2)	590	SEC

III. SLV-2 PERFORMANCE

ALL SLV-2 SUB-SYSTEMS PERFORMED ADEQUATELY FOR ACHIEVEMENT OF THE PRIMARY TEST OBJECTIVES.

QUICK-LOOK DATA INDICATE THAT ACCEPTABLE BOOSTER COAST APOGEE CONDITIONS WERE ATTAINED AND APPROPRIATE COMMANDS WERE PROVIDED TO THE S-01A. THE TENTATIVE EVALUATION OF COAST APOGEE VELOCITY WAS 8937 FPS (NOMINAL: 8939 FPS) AND ALTITUDE WAS 154.38 NM (NOMINAL: 154.69 NM).

IV. S-01A PERFORMANCE

A GUIDANCE ERROR ASSOCIATED WITH THE S-01A VEHICLE RESULTED IN TRAJECTORY CONDITIONS AT ENGINE SHUTDOWN WHICH WERE SIGNIFICANTLY DIFFERENT THAN NOMINAL.

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FROM:

6595TH AEROSPACE TEST WG, VANDENBERG AFB, CALIF.

EXCEPT FOR THIS PROBLEM ALL S-01A VEHICLE SUB-SYSTEMS PERFORMED SATISFACTORILY DURING LAUNCH.

EXAMINATION OF RADAR TRACKING DATA AND GROUND GUIDANCE QUICK LOOK DATA INDICATE THAT THE TRAJECTORY ERROR AT ENGINE SHUTDOWN WAS ASSOCIATED WITH THE S-01A VEHICLE.

THE MOST SIGNIFICANT TRAJECTORY DEVIATIONS WERE APPROXIMATELY PLUS 2.5 DEG IN ELEVATION FLIGHT PATH ANGLE AND PLUS 28 STATUTE MILES IN ALTITUDE. THESE DEVIATIONS INDICATE THAT THE THRUST VECTOR WAS MIS-DIRECTED BY MORE THAN THREE DEGREES. EXAMINATION OF TELEMETRY DATA INDICATES THAT THE HORIZON SENSOR MECHANICAL BIAS ANGLE DURING ASCENT WAS IN ERROR BY AT LEAST 3 DEGREES. THUS THE MISDIRECTED THRUST AND RESULTANT GUIDANCE ERROR IS ATTRIBUTED TO AN IMPROPER ADJUSTMENT OF THE HORIZON SENSOR BIAS ANGLE.

AT THE TIME OF TELEMETRY SIGNAL FADE AT YTS, THE ORBITAL TIMER WAS SET AT 5439 SEC (STEP [illegible] THE RESET-ON POSITION, IN THE INCREASE MODE, AND AT [illegible] RE-ENTRY ENABLE STATE.

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FROM:

6595TH AEROSPACE TEST WG, VANDENBERG AFB, CALIF [redacted]

V. SPACE-GROUND COMMUNICATIONS

TELEMETRY DATA FROM ALL LINKS WERE SATISFACTORILY RECEIVED AND RECORDED.

VERLORT RADAR TRACKING PERFORMANCE WAS SATISFACTORY.

VI. COUNTDOWN

LAUNCH WAS ACCOMPLISHED ON THE SECOND ATTEMPT. THE FINAL COUNTDOWN WAS INITIATED AT 0348 PST ON 26 APRIL 1963 AND PROCEEDED TO LIFTOFF WITH TWO HOLDS IMPOSED FOR A TOTAL OF 28 MIN BY RANGE SAFETY BECAUSE OF TRAINS. HOLD NO. 1, 23 MIN DURATION WAS IMPOSED AT T-15 MIN (1130 PST). HOLD NO. 2, 5 MIN DURATION, WAS IMPOSED AT T-3 MIN (1208 PST). DUE TO A 15 MIN ADVANCE IN THE SCHEDULED LAUNCH WINDOW THE COUNTDOWN CLOCK WAS ADVANCED 15 MIN IN TASK 13.

THE COUNTDOWN PROCEEDED WITHOUT INCIDENT EXCEPT FOR A MINOR ADJUSTMENT OF THE LMEC AGE MAST OXIDIZER REGULATOR AND THE LMEC HELIUM FILL UMBILICAL, BOTH [redacted] MINOR ADJUSTMENT DURING SUSTAINER STAGE PRESSURIZATION. NO DELAY WAS CAUSED.

THE FIRST COUNTDOWN WAS INITIATED AT 0348 PST ON 25 APRIL 1963 AND WAS CANCELLED AT 1238 [redacted]

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FROM: [redacted]

6595TH AEROSPACE TEST WG, VANDENBERG AFB, CALIF.

INABILITY TO ACTUATE THE S-01 VEHICLE LIFEBOAT SOLENOID VALVE. EVALUATION INDICATED AN ELECTRICAL INCOMPATIBILITY BETWEEN THE VEHICLE AND AGE, RESULTING IN THE SOLENOID VALVE NOT BEING ELECTRICALLY GROUNDED. THERE WAS INSUFFICIENT TIME TO CORRECT THE PROBLEM AND LAUNCH WITHIN THE SCHEDULED TIME.

ADDITIONAL PROBLEMS ENCOUNTERED DURING THE FIRST COUNTDOWN WERE AS FOLLOWS:

A. AN LMSC AGE ELECTRICAL PATCHING NETWORK WAS MODIFIED.

B. AN OIL LEAK OCCURRED IN THE HYDRAULIC SYSTEM OF A PERSONNEL HIGH LIFT. IT WAS REPLACED WITH ONE FROM ANOTHER PAD.

C. A DAC AGE METER USED IN DESTRUCT SYSTEM CHECKS MALFUNCTIONED AND WAS REPLACED.

D. THE LIFTOFF SYSTEM CIRCUITRY AT THE OCC BUILDING WAS MISWIRED RESULTING IN FAILURE TO RECEIVE THE SIGNAL AT THE VTS AND LMSC MAB. THE CIRCUITRY WAS REPAIRED BEFORE THE SECOND COUNTDOWN.

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FROM: 6595TH AEROSPACE TEST WG, VANDENBERG AFB, CA [redacted]

VII AEROSPACE GROUND EQUIPMENT (AGE)

THE AGE FUNCTIONED SATISFACTORILY TO SUPPORT CHECKOUT AND LAUNCH OF THE VEHICLE WITH THE FOLLOWING EXCEPTIONS:

1. AN OIL LEAK OCCURRED IN THE HYDRAULIC SYSTEM OF A 1.5MAC PERSONNEL HIGH LIFT. A SUBSTITUTE HIGH LIFT WAS USED.
2. ELECTRICAL PATCHING CIRCUITRY IN THE BLOCKHOUSE WAS MODIFIED DURING THE FIRST COUNTDOWN TO ACCOMODATE CHECKOUT.
3. A DAC AGE DESTRUCT TEST METER MALFUNCTIONED AND WAS REPLACED.
4. INCOMPATIBILITY BETWEEN AGE AND VEHICLE CIRCUITRY RESULTED IN A FAILURE TO PROVIDE A PROPER ELECTRICAL GROUND FOR THE VEHICLE BUTTBOAT SOLENOID VALVE. COMPATIBILITY WAS ESTABLISHED PRIOR TO FINAL COUNTDOWN.

VIII PAD DAMAGE

PAD DAMAGE WAS NO GREATER THAN NORMAL AND THE TURNAROUND SCHEDULE CAN BE MAINTAINED.

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